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Walker et al.

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(54) **COLLAPSIBLE PYLON**

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G09F 7/00 (2006.01)
E01F 9/012 (2006.01)

(52) **U.S. Cl.**
CPC ***E01F 9/0122*** (2013.01); ***G09F 7/00*** (2013.01)

(58) **Field of Classification Search**
CPC G09F 7/00; G09F 15/0025; E01F 9/0122; E01F 9/014; E01F 9/0175; E01F 9/0118; E01F 13/02
USPC ..... 40/606.03; 116/63 C, 63 P
See application file for complete search history.

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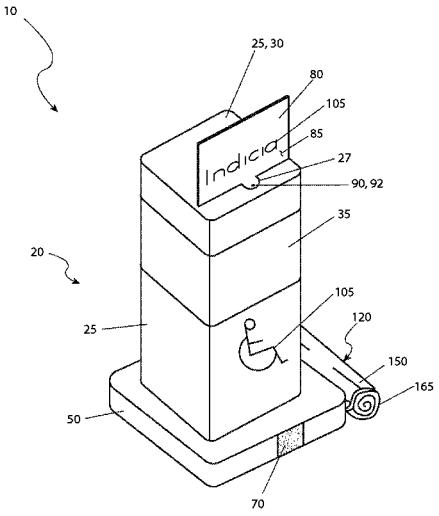
(57) **ABSTRACT**

A collapsible pylon includes a cover, an inner spring, and a stabilizing base. The cover is connected to the base and covers the spring. A placard, communicating the intent of the pylon, extends upward from the top of the pylon in a deployed configuration. The base includes a strap and corresponding fasteners to bind and retain the spring body, cover, and placard against the base in a collapsed and substantially flat position for storage. The collapsed pylon is then inserted into an attached case for storage.

19 Claims, 4 Drawing Sheets



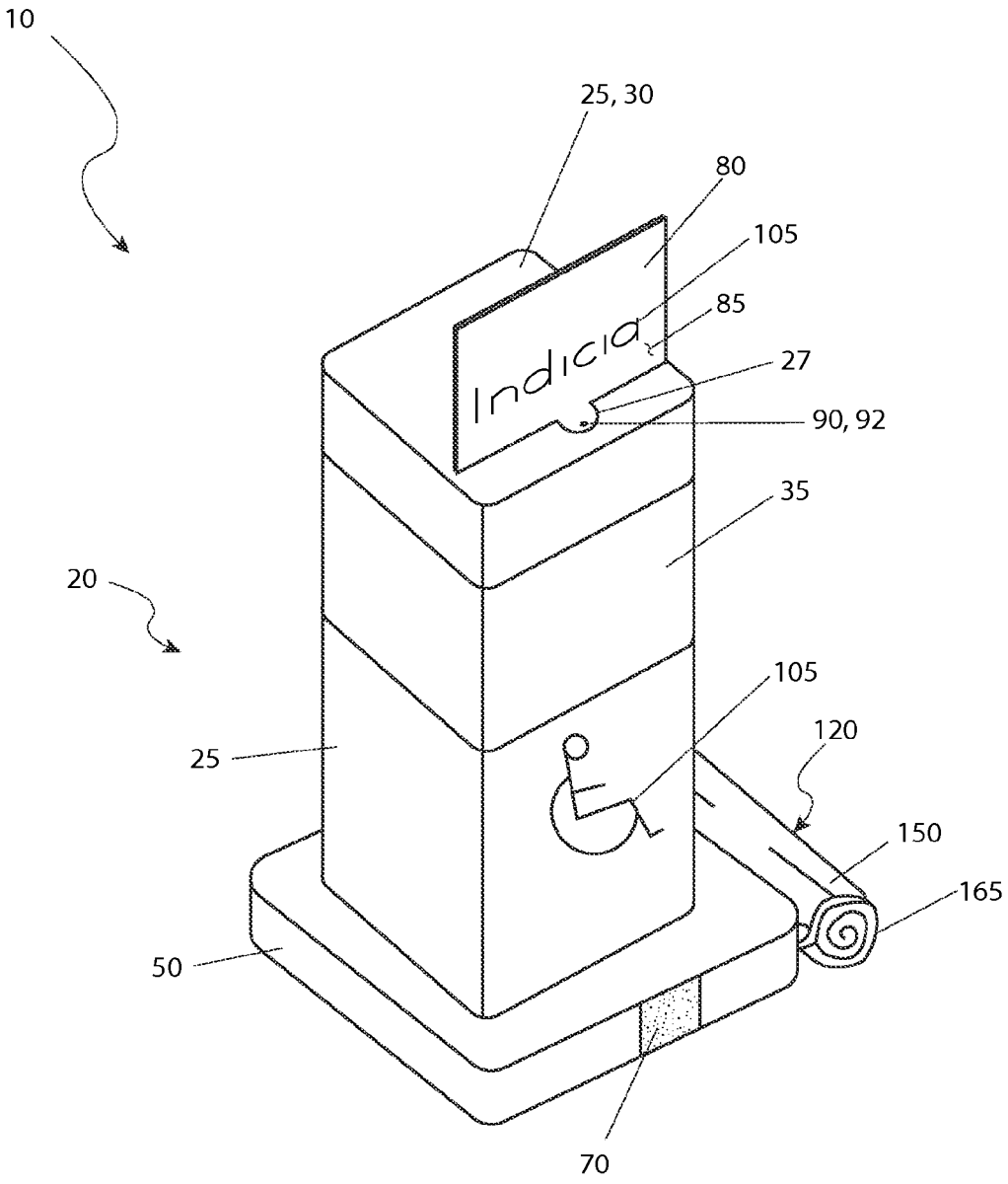


Fig. 1

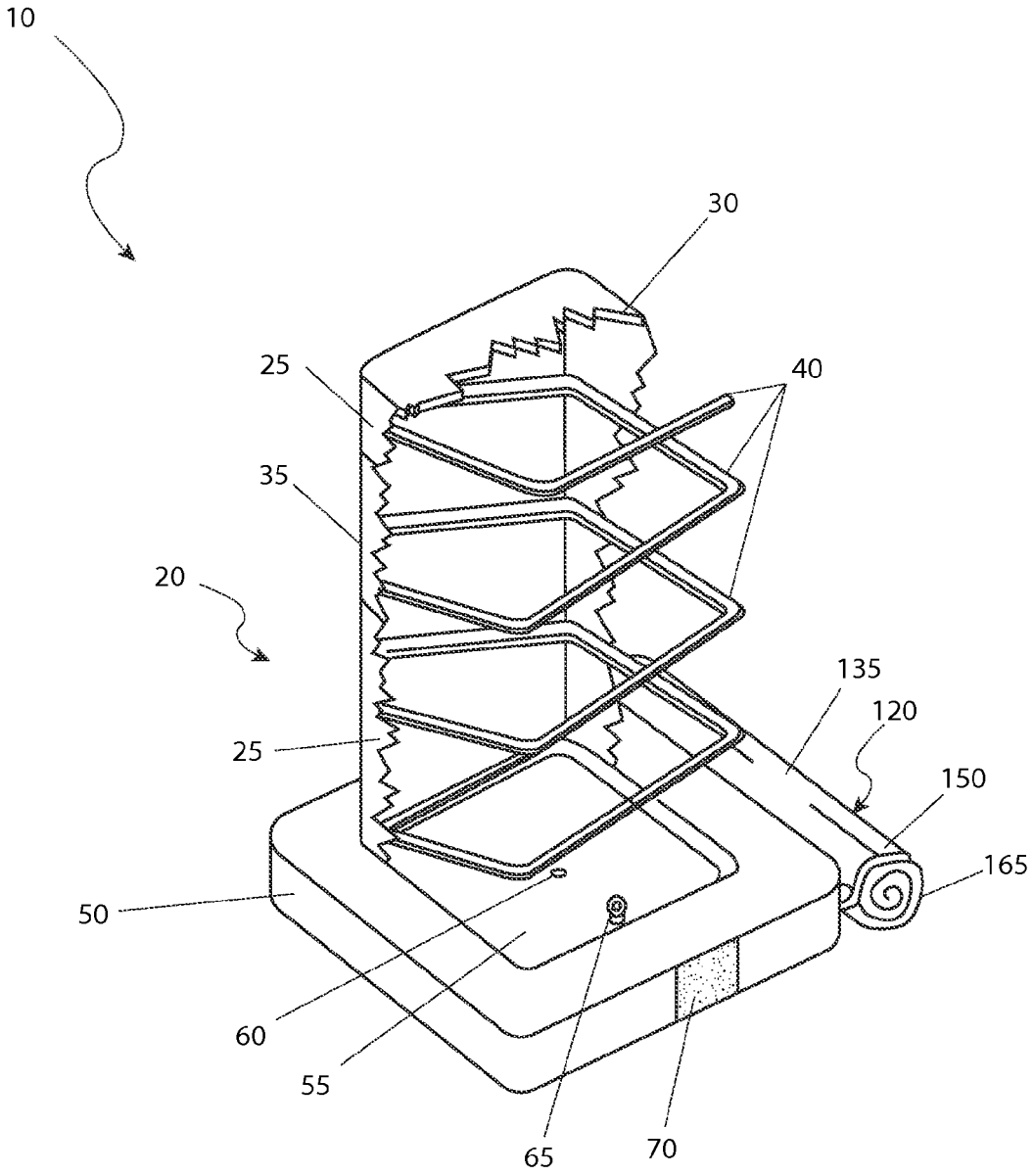


Fig. 2

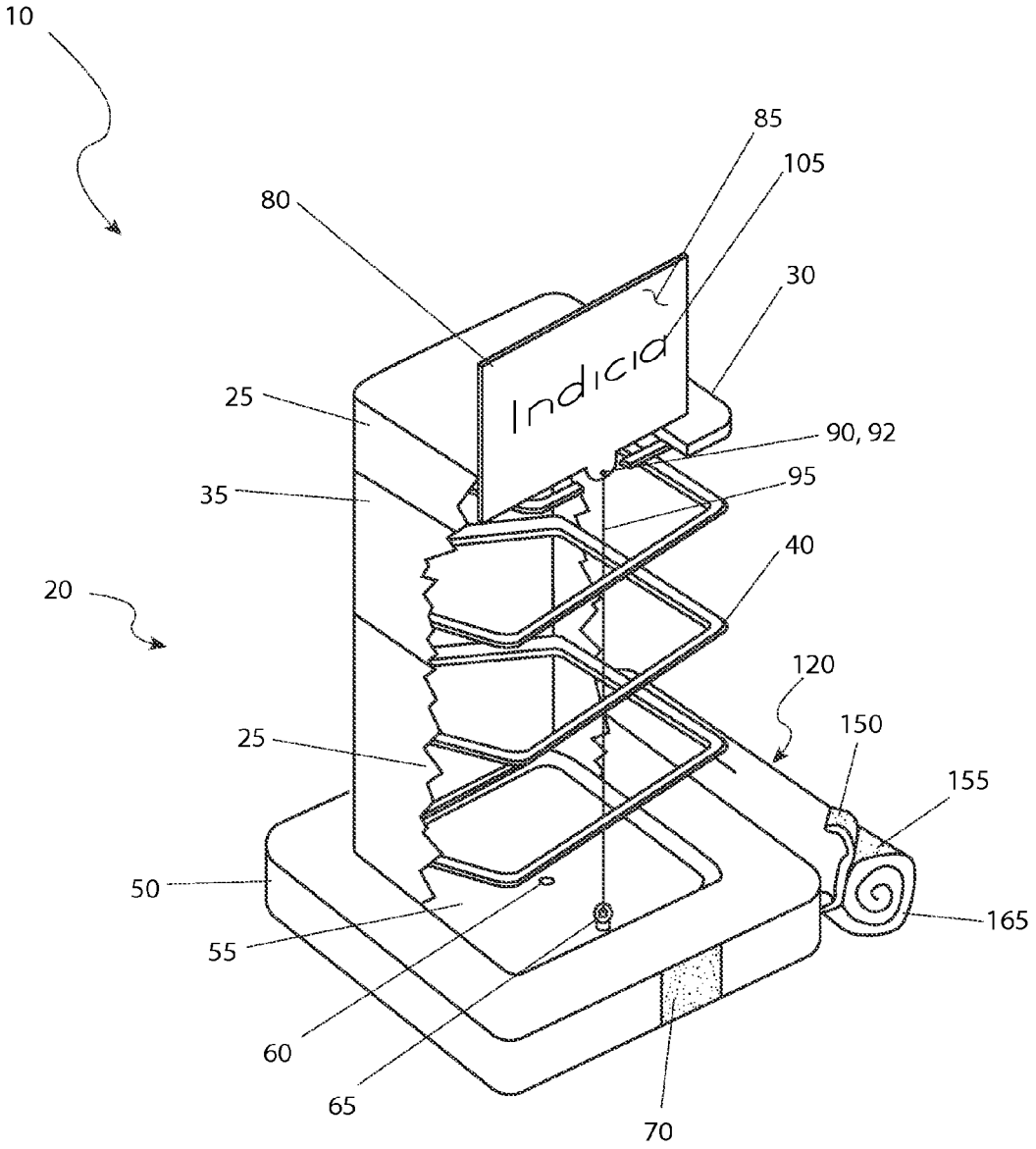

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Fig. 3

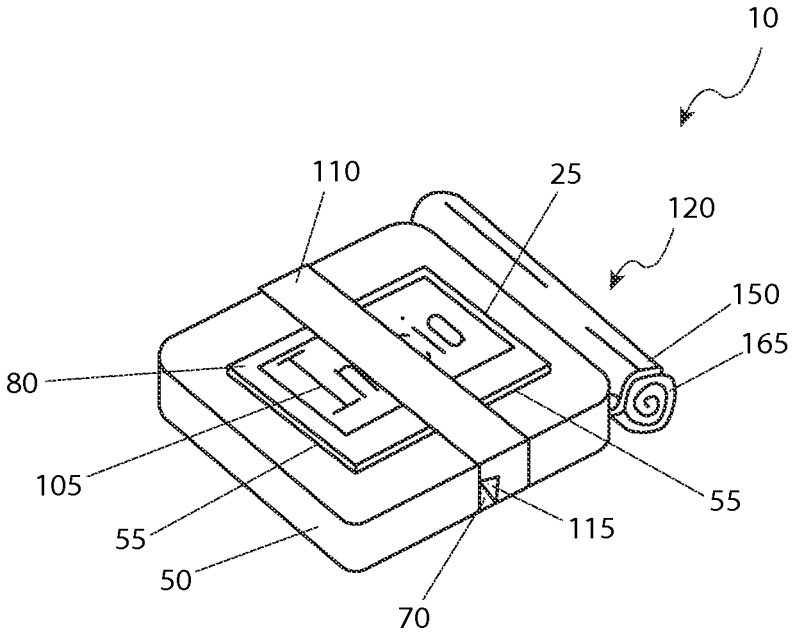
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Fig. 4

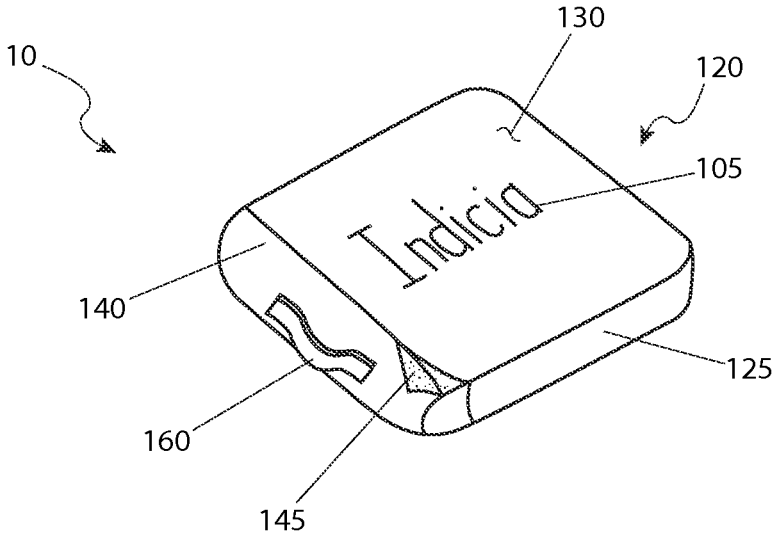
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Fig. 5

COLLAPSIBLE PYLON

RELATED APPLICATIONS

The present invention is a continuation of, was first described in, and claims the benefit of U.S. Provisional Application No. 62/068,124, filed Oct. 24, 2014, the entire disclosures of which are incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates generally to a collapsible pylon having an informational placard extending from the top when deployed.

BACKGROUND OF THE INVENTION

Handicapped people confined to wheelchairs are faced with obstacles on a daily basis that most of us take for granted. Simple travel from place to place becomes a major undertaking that requires considerable effort. Fortunately, the public is becoming increasingly aware of the difficulties that these people face, and are responding in a positive manner. For example, legislation such as the Americans with Disabilities Act imposes responsibilities upon the public sector to make provisions to accommodate the physically handicapped so that they may gain access to, and take advantage of, the various goods and services available to others. Handicapped parking spots are one (1) of these provisions.

Unfortunately, many times such spaces are not wide enough for wheel chair ramp or mechanism access, forcing such users to park even farther away. Additionally, even if a space should be open to disembark the vehicle, it is often taken away by another parked vehicle when returning, leaving the wheelchair bound user stranded until it can be moved. Accordingly, there exists a need for a means by which the necessary space alongside a vehicle used with a wheelchair can be reserved for access. The use of the collapsible pylon provides a means to easily reserve space for wheelchair access along the side of a van or other vehicle in a manner which is not only quick, easy, and effective, but readily visible to other drivers as well.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide such a collapsible pylon capable of being positioned between a fully collapsed state and a fully disposed state. Such a pylon includes a base, a cover attached to the base and defining a storage cavity therein, a spring body attached to the base within the storage cavity at a first end and attached to an inner surface of a top panel of the cover at a second end, a placard disposed above the top panel of the cover and anchored to the base via a cord routed within the storage cavity, and a fastening strap affixed to the base for retaining the cover, the spring body, and the placard against the base when in the collapsed state.

Another object of the present invention is to provide a carrying case affixed to the base to retain the entire collapsed pylon therein, the carrying case has a flap and a flap fastener for retaining the collapsed pylon and a handle to assist in carrying the entire collapsed pylon.

Another object of the cover is to provide a body having a generally rectangular cross-section.

Yet another object of the cover is to provide at least one (1) reflective stripe located on an exterior surface thereof.

Another object of the base is to provide a section recessed area located on an upper surface within said storage cavity. The spring body fully resides within said recessed area when in the compressed state.

Yet another object of the base is to provide a drain located within the storage cavity.

Another object of the spring body is to provide a multi-coil compression spring having a rectangular helix.

BRIEF DESCRIPTION OF THE DRAWINGS

The advantages and features of the present invention will become better understood with reference to the following more detailed description and claims taken in conjunction with the accompanying drawings, in which like elements are identified with like symbols, and in which:

FIG. **1** is an isometric view of a collapsible pylon **10**, in accordance with the preferred embodiment of the present invention;

FIG. **2** is a breakaway view of the collapsible pylon **10** depicting an internal spring portion **40**, in accordance with the preferred embodiment of the present invention;

FIG. **3** is another breakaway view of the collapsible pylon **10** showing an erect placard portion **80**, in accordance with the preferred embodiment of the present invention;

FIG. **4** is a perspective view of the collapsible pylon **10** configured as compressed and secured, in accordance with the preferred embodiment of the present invention; and,

FIG. **5** is a perspective view of the collapsed pylon **10** being contained within a carrying case portion **120** ready for storage, in accordance with the preferred embodiment of the present invention.

DESCRIPTIVE KEY

10 collapsible pylon
20 spring enclosure assembly
25 cover
27 cover aperture
30 cap
35 stripe
40 spring
50 base
55 storage cavity
60 drain aperture
65 eyelet
70 first fastener
80 placard
85 placard face
90 placard aperture
92 placard tab
95 tension cord
105 indicia
110 strap
115 second fastener
120 carrying case
125 pouch
130 case exterior
135 case interior
140 cuff
145 cuff fastener
150 flap
155 flap fastener
160 handle
165 roll

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The best mode for carrying out the invention is presented in terms of its preferred embodiment, herein depicted within FIGS. **1** through **5**. However, the invention is not limited to the described embodiment and a person skilled in the art will appreciate that many other embodiments of the invention are possible without deviating from the basic concept of the invention, and that any such work around will also fall under scope of this invention. It is envisioned that other styles and configurations of the present invention can be easily incorporated into the teachings of the present invention, and only one particular configuration shall be shown and described for purposes of clarity and disclosure and not by way of limitation of scope.

The terms "a" and "an" herein do not denote a limitation of quantity, but rather denote the presence of at least one (1) of the referenced items.

The present invention describes a collapsible pylon (herein referred to as the "device") **10**, which preferably provides a means to selectively demark an access area for a vehicle utilized by a handicapped individual to indicate a requirement for an additional area to disembark from, and re-enter, the vehicle. While the preferred use of the device **10** is to function ostensibly to provide an access area for a vehicle, it is understood that such a device **10**, with the stated capabilities, can find broader applications without limiting the scope of the invention.

Referring now to FIGS. **1** and **2**, isometric and breakaway views of the device **10**, according to the preferred embodiment of the present invention, are disclosed. The device **10** includes a spring enclosure assembly **20** with an attached placard **80**, a stabilizing base **50**, and a conveniently attached carrying case **120**. The spring enclosure assembly **20** is configured to include a weather-resistant rectangularly shaped cover **25** composed of a synthetic textile, such as nylon, or the like. The cover **25** encompasses a correspondingly shaped multi-coil compression spring **40** having a rectangular helix shape. The spring **40** is formed with a rectangular cross-section as can be clearly seen in the breakaway view of FIG. **2**. The cover **25** is illustrated here having a generally rectangular overall shape with sides and a top panel. The bottom edge portions of the cover **25** are in turn affixed to the base **50** in a perpendicular manner along side portions of a correspondingly shaped storage cavity portion **55** of the base **50**. The storage cavity **55** is molded recessed area located centrally and formed into a top surface of the base **50**. The cover **55** is affixed thereto the storage cavity **55** using adhesives, rivets, or an equivalent means. The cover **25** includes a planar cap portion **30** which extends horizontally across an inner top surface of the cover **25**. The cap **30** is supported by the subjacent spring **40** within the spring enclosure assembly **20**, thereby applying a force of the spring **40** evenly across the cap **30**, thereby presenting the top of the cover **55** as a horizontal planar surface. The cap **30** is a square plate with rounded corners composed of a rigid thermoplastic material. The cover **25** and cap **30** provide a circular cover aperture **27** therethrough to enable attachment of a top-mounted placard **80** (also see FIG. **3**).

The cover **25** is provided with at least one (1) reflective stripe **35** surrounding the spring enclosure assembly **20** to make the device **10** more noticeable when illuminated by an automotive headlight beam. It is envisioned that the cover **25** may also contain various indicia **105** consisting of specialized symbols and images typically indicative of handicapped and similar considerations.

The base **50** is generally square and preferably made of a resilient weather-resistant material such as molded urethane, rubber, or other dense materials to aid in stabilizing the device **10** upon a surface. It is understood that other materials, such as other thermoplastics, wood, or metal, may also be utilized without limiting the scope of the device **10**. It is also envisioned that additional weighting materials, such as high-density polymers, or a metal plate, may be embedded within the base **50** to provide a lower center of gravity and therefore improve stability. The base **50** may be provided with rounded corners and/or edges to improve the manufacturability of the device **10**. The storage cavity **55** is disposed centrally within an upper portion of the base **50** as depicted in FIGS. **2** and **3**. The storage cavity **55** is configured to be sized so as to adequately accommodate the spring enclosure assembly **20** and the placard **80** when in a compressed state (see FIG. **4**). The spring **40** is mounted around the perimeter of the storage cavity **55**, along with the cover **25**, via a mechanical fit or equivalent means. A drain aperture **60** is disposed centrally within the storage cavity **55**. The drain aperture **60** is configured to be a cylindrical channel between the storage cavity **55** and the bottom of the base **50** through which any accumulation of water, or other fluids, may be vented to the environment.

The device **10** includes a means of compact compression and securement for purposes of storage via a strap **110** and corresponding fasteners **70**, **115** located along outer surfaces of the base **50** (see FIG. **4**).

An attached carrying case **120** configured to be a pouch **125** is to be made of a weather-resistant synthetic textile such as nylon or the like, and is attached to a side edge of the base **50** using adhesives, rivets, or equivalent means (see FIGS. **4** and **5**).

Referring now to FIG. **3**, a breakaway view of the placard portion **80** of the device **10**, according to the preferred embodiment of the present invention, is disclosed. The placard **80** is a rigid rectangular thermoplastic panel configured to project perpendicularly upward from the planar cap **30**. The placard **80** includes an integral and downwardly protruding placard tab **92** formed intermediately along a lower edge portion and having a centrally located placard aperture **90**. The placard tab **92** is disposed within the aforementioned cover aperture **27** which extends completely through the top of the cover **55** and the cap **30**. A correspondingly positioned eyelet **65** is anchored to the bottom surface of the storage cavity **55** in vertical alignment with the placard tab **92**. An elastic tension cord **95** extends between, and is affixed to, the eyelet **65** and the placard aperture portion **90** of the placard tab **92**. When the spring enclosure assembly **20** is collapsed for storage, as demonstrated in FIG. **4**, the tension cord **95** is in a relaxed state and the placard **80** freely rotates so as to lie parallel upon the cover **25**. However, when the spring enclosure assembly **20** is fully extended via the spring **40**, the tension cord **95** pulls taut upon the placard tab **92** and the placard **80** is forced to stand erect upon the top surface of the cover **25**. The placard **80** is provided with opposing placard faces **85** which are envisioned to bear indicia **105** indicative of the purpose of the device **10**.

To place the device **10** in use, the spring enclosure assembly **20** and base **50** portions in their collapsed and bound states are removed from the carrying case **120** by turning the case interior **135** inside out so as to peel the carrying case **120** from the compressed assembly. A flap **150** is thereby exposed which normally resides within the pouch **125**. The pouch **125** is then formed into a roll **165** by joining the flap **150** to the corresponding flap fastener **155**. The flap **150** and flap fastener **155** portion are envisioned to be complimentary pieces

of a hook-and-loop fastener, such as VELCRO®, and are engaged to encompass the spring enclosure assembly **20** and the base **50** portions (also see FIGS. **4** and **5**).

Referring now to FIGS. **4** and **5**, perspective views depicting the device **10** in a compact secured state, and within a carrying case **120**, respectively, according to the preferred embodiment of the present invention, are disclosed. A first fastener portion **70** is affixed thereto a side surface of the base **50** using adhesives or equivalent method, being the hooks portion of a hook-and-loop fastener, such as VELCRO®, and is disposed along at least one (1) side edge of the base **50**. A strap **110**, composed of the same constituent material as the cover **25**, is attached to the base **50** at an opposite side edge, either by a fixed means, such as with an adhesive material, or a mechanical fastener, or by means of a second fastener **115** comprised of the hooks portion of a hook-and-loop fastener. The strap **110** is intended to retain the compressed spring enclosure assembly **20** within the storage cavity **55** of the base **50** when not in use as illustrated in FIG. **4**. A second fastener **115** is disposed on at least one (1) end of the strap **110** for removable attachment of the strap **110** to the first fastener **70**, thereby allowing release of the spring enclosure assembly **20** for use.

Compact storage of the device **10** is obtained by inserting the compressed spring enclosure assembly **20**, as portrayed in FIG. **4**, within the pouch portion **125** of the carrying case **120** by turning the case interior **135** over the compressed spring enclosure assembly **20**, thereby revealing the case exterior **130**. In order to accomplish this procedure the flap fastener **155**, as previously described in FIG. **3**, is disengaged and the pouch **125** is allowed to unroll to a flat arrangement. The pouch **125** is then inserted onto the compressed spring enclosure assembly **20** until wholly within the pouch **125**. A cuff **140**, configured to be an overlapping extension of the pouch **125**, is folded over the open end of the pouch **125** and secured with a correspondingly positioned cuff fastener **145**. The cuff fastener **145**, in the preferred embodiment, is composed of the complimentary pieces of a hook-and-loop fastener, such as VELCRO®. A handle **160**, preferably generally "U"-shaped, is sewn to, or otherwise attached to the cuff portion **140** of the pouch **125** to more easily facilitate manual transportation of the device **10**. It is envisioned that additional indicia **105** which may further indicate the contents of the pouch **125** be disposed on the case exterior **130**.

It is envisioned that other styles and configurations of the present invention can be easily incorporated into the teachings of the present invention, and only one particular configuration shall be shown and described for purposes of clarity and disclosure and not by way of limitation of scope.

In accordance with the invention, the illustrated embodiment can be utilized by an enabled individual in a simple and straightforward manner with little or no training. After initial purchase or acquisition of the device **10**, it would be in all likelihood be arranged as indicated in FIG. **5** with a need to be set up for utilization as depicted in FIG. **1**.

The method of installing and utilizing the device **10** may be achieved by performing the following steps: acquiring a model of the device **10**; opening the cuff **140** by disengaging the cuff fastener **145**; peeling the pouch **125** away from the base **50** and compressed spring enclosure assembly **20** portions, thereby reversing the pouch **125** to reveal the flap **150**; securing the pouch **125** in the form of a roll **165** by attaching the flap **150** and flap fastener **155** portions; removing the strap **110** from the base **50** by detaching the first fastener **70** from the second fastener **115**, being careful to coincidentally apply pressure to the placard **80** to avoid unexpected deployment of the spring enclosure assembly **20**; permitting the spring **40** and spring enclosure assembly **20** to expand by slowly reducing pressure upon the placard **80**; allowing the internal tension cord **95** to become taut and applying a downward tension upon the placard tab **92**, causing the placard **80** to become erect; placing the device **10** in the appropriate location to selectively demark an area; and, benefiting from a compact and portable means to selectively demark an access area for a vehicle, afforded a user of the present invention **10**.

The method of collapsing and preparing the device **10** for storage may be achieved by performing the following steps: pivoting the placard **80** to a parallel position upon the cover **25**; collapsing the spring **40** within the spring enclosure assembly **20** by pressing downwardly upon the placard **80** until the spring enclosure assembly **20** is completely within the storage cavity **55**; fastening the strap **110** securely to opposing sides of the base **50** by attaching respective first **70** and second **115** fastener portions to each other; releasing the flap **150** from the flap fastener **155**; unrolling the pouch **125**; reversing the pouch **125** so as to encompass the base **50** and spring enclosure assembly **20** portions; securing the pouch **125** in a closed state upon the base **50** and spring enclosure assembly **20** by fastening the cuff fastener **145** to the cuff **140**; and, storing the device **10** until needed again.

The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention and method of use to the precise forms disclosed. Obviously many modifications and variations are possible in light of the above teaching. The embodiment was chosen and described in order to best explain the principles of the invention and its practical application, and to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is understood that various omissions or substitutions of equivalents are contemplated as circumstance may suggest or render expedient, but is intended to cover the application or implementation without departing from the spirit or scope of the claims of the present invention.

What is claimed is:

1. A collapsible pylon, comprising:

a base;

a cover, having a lower perimeter edge affixed to an upper surface of said base, defining a storage cavity therein;

a top panel supported on an upper perimeter edge of said cover;

a spring body, having a lower end attached to an upper surface of said base within said storage cavity and an upper end attached to an inner surface of said top panel; and,

a placard disposed above said top panel, having a tab anchored via a cord to said base upper surface within said storage cavity;

wherein said cover, said spring body, and said placard is selectively positioned between a deployed state and a compressed state; and,

wherein said storage cavity retains said spring body therewithin when in said compressed state.

2. The collapsible pylon of claim **1**, wherein said cover further comprises a generally rectangular cross-section.

3. The collapsible pylon of claim **1**, further comprising a recessed area located on said base upper surface within said storage cavity;

wherein said spring body fully resides within said recessed area when in said compressed state.

4. The collapsible pylon of claim 1, wherein said spring body further comprises a multi-coil compression spring having a rectangular helix.

5. The collapsible pylon of claim 1, further comprising at least one reflective stripe located on said cover.

6. The collapsible pylon of claim 1, further comprising a drain located within said storage cavity of said base.

7. A collapsible pylon, comprising:

a base;

a cover, having a lower perimeter edge affixed to an upper surface of said base, defining a storage cavity therein;

a top panel supported on an upper perimeter edge of said cover;

a spring body, having a lower end attached to an upper surface of said base within said storage cavity and an upper end attached to an inner surface of said top panel;

a placard disposed above said top panel, having a tab anchored via a cord to said base upper surface within said storage cavity; and,

a fastening strap attached to said base;

wherein said cover, said spring body, and said placard is selectively positioned between a deployed state and a compressed state;

wherein said storage cavity retains said spring body therewithin when in said compressed state; and,

wherein said fastening strap has a securing means for securing said cover, said spring body, and said placard in said compressed state.

8. The collapsible pylon of claim 7, wherein said cover further comprises a generally rectangular cross-section.

9. The collapsible pylon of claim 7, further comprising a recessed area located on said base upper surface within said storage cavity;

wherein said spring body fully resides within said recessed area when in said compressed state.

10. The collapsible pylon of claim 7, wherein said spring body further comprises a multi-coil compression spring having a rectangular helix.

11. The collapsible pylon of claim 7, further comprising at least one reflective stripe located on said cover.

12. The collapsible pylon of claim 7, further comprising a drain located within said storage cavity of said base.

13. A collapsible pylon, comprising:

a base;

a cover, having a lower perimeter edge affixed to an upper surface of said base, defining a storage cavity therein;

a top panel supported on an upper perimeter edge of said cover;

a spring body, having a lower end attached to an upper surface of said base within said storage cavity and an upper end attached to an inner surface of said top panel;

a placard disposed above said top panel, having a tab anchored via a cord to said base upper surface within said storage cavity;

a fastening strap attached to a first side of said base; and,

a carrying case affixed along an entire second side of said base

wherein said cover, said spring body, and said placard is selectively positioned between a deployed state and a compressed state;

wherein said storage cavity retains said spring body therewithin when in said compressed state;

wherein said fastening strap has a securing means for securing said cover, said spring body, and said placard in said compressed state; and,

wherein said carrying case retains said collapsible pylon therewithin when in said collapsible state.

14. The collapsible pylon of claim 13, wherein said cover further comprises a generally rectangular cross-section.

15. The collapsible pylon of claim 13, further comprising a recessed area located on said base upper surface within said storage cavity;

wherein said spring body fully resides within said recessed area when in said compressed state.

16. The collapsible pylon of claim 13, wherein said spring body further comprises a multi-coil compression spring having a rectangular helix.

17. The collapsible pylon of claim 13, further comprising at least one reflective stripe located on said cover.

18. The collapsible pylon of claim 13, further comprising a drain located within said storage cavity of said base.

19. The collapsible pylon of claim 13, wherein said carrying case further comprises:

a flap;

a flap fastening means for retaining said collapsible pylon within said carrying case; and,

a handle affixed to an exterior surface of said carrying case.

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